

2013 Cypress Bayou Reservoir (Cypress Lake) Vegetation Control Plan

LDWF, Inland Fisheries

Impounded in 1975.

Waterbody Type – Reservoir created from the impoundment of Cypress Bayou

Parish – Bossier Parish, approximately 3 miles east of the town of Benton

Age and condition of control structure – approximately 36 years old, good condition.

Type of control structure – 250 foot long concrete spillway set at an elevation of 179.6 MSL. The structure has one gate which facilitates drawdowns through a 48 inch diameter outflow conduit.

Spillway Crest Height – 179.6 MSL. Normal seasonal water level fluctuations from approximately 178 MSL to 181 MSL

Surface area – 3,400 acres at normal pool stage, normal water level fluctuations do not greatly alter the surface acreage due to shoreline contour.

Average depth – 7.7 feet at pool stage

Watershed ratio – 29.2:1

Drawdown Potential of structure – lake can be completely dewatered.

Lake Commission –Cypress Black Bayou Recreation and Water Conservation District Commission

Creation / Nomination – The Cypress Black Bayou Recreation and Water Conservation District Commission was created by state statute (Appendix I). Members of the board of commissioners are appointed as follows: one by the Bossier Parish Police Jury, one by the mayor and governing authority of Bossier City, one by the mayor and governing authority of the village of Benton, one by the Bossier Parish School Board, and the fifth by the Board of Commissioners of the Bossier Levee District. Any vacancy in the office of commissioner, due to death, resignation or any other cause, shall be filled by the remaining commissioners for the unexpired term.

Cypress Black Bayou Recreation and Water Conservation District Commission			
Name	Appointed By:	Address	Term Expires
Wes Burdine	Bossier City	4503 Palmetto Rd, Benton, LA	7-31-2015
Mike Bankston	Town of Benton	5029 Sweetwater Dr., Benton, LA	7-31-2016
Ralph Whitley	Bossier Levee District	310 Cash Point Landing Bossier City, LA	7-31-2012
Robert Berry	Bossier Police Jury	121 Preston Bay Benton, LA	7-31-2013
Mike Weber	Bossier Parish School Board	313 Jacob's Point Benton, LA	7-31-2014

Mike Kling – Executive Director of the Cypress Black Bayou Recreation and Water Conservation District. 318-965-2289.

Procedure for spillway openings – Cypress Black Bayou Recreation and Water Conservation District is responsible for operation and maintenance of the control structure, spillway and dam. Drawdown plans from the lake commission are coordinated through LDWF prior to opening the control structure.

Drawdown history of Cypress Bayou Reservoir from 1999 to 2010

Date Opened	Date Closed	Depth Below Pool	Purpose	Results	Issues
10/1999 (approx.)	1/17/2000	5	Shoreline maintenance, repair and restoration of beach at park, erosion control	Good	None known
9/8/2009	1/15/2010 (planned closure)	6 – 8 Feet	Shoreline maintenance, repair and restoration of beach at park, erosion control	Drawdown unsuccessful due to heavy rains and flooding.	Drawdown cancelled due to heavy rains and flooding
8/15/2010	1/15/2011	6 – 8 Feet	Shoreline maintenance, erosion control, repair and restoration of beach, aquatic vegetation control.	Good, lake had not refilled as of 6/30/11 due to drought.	Concern over fish kills from early start date proposed by lake commission (8/1), date moved back to 8/15. Lake still has not refilled following drawdown due to drought as of 6/30/11.

What significant stakeholders use the lake?

Cypress Bayou Reservoir is primarily used by lake residents, anglers, recreational boaters, swimmers, water sports enthusiasts, limited waterfowl hunters and commercial fishermen.

What are their needs and concerns?

The primary concern of shoreline residents is access to the lake from their homes and camps and aesthetics. Fishing access is generally a concern only in the upper end of the lake and the backs of coves.

What is the history of aquatic vegetation complaints?

There are occasional aquatic vegetation complaints in the upper end of the lake and the backs of some coves.

Have there been any controversial issues on the lake?

Occasionally a homeowner does not want aquatic vegetation sprayed along their shoreline. The primary issue was commercial fishing activity on the lake and that has been resolved through legislation and commission action.

Aquatic Vegetation Status:

Cypress Bayou Reservoir returned to pool stage in 2012. Water levels did drop during the summer months due to a lack of rainfall. Aquatic vegetation, mainly alligator weed, has been a complaint from shoreline property owners. LDWF crews have made several trips to the lake to treat alligator weed around boat houses and homes. Clearcast (imazamox) was applied at 0.5 gallons per acre and glyposate at 0.75 gallons per acre. Both treatments included a surfactant at 1 quart per acre rate. Good control has been maintained. Less than 5% coverage on the lake was maintained during 2012 by pesticide application efforts from LDWF crews. Of that 5%, 4 % was alligator weed and the remaining 1% was smartweed growing in a shallow flat along an uninhabited shoreline.

There is considerable shoreline contour on the lower half of the lake which restricts aquatic vegetation to a narrow fringe except in the backs of coves on this end of the reservoir. The upper end of the lake has a considerably shallower slope. Problematic vegetation in this area includes American lotus, alligator weed, fragrant water lily, water primrose, and other emergent and submersed native vegetation. This pattern of vegetation growth is typical in Cypress Lake and aquatic vegetation will likely return to these areas in a couple of growing seasons following the drawdown.

Giant salvinia was documented in Cypress Lake in 2007. Successive harsh winters and the drawdown in 2010 may have eliminated this plant in the lake. Giant salvinia was not found in Cypress Lake in 2011 or 2012.

During observations made in the summer of 2012, Inland Fisheries biologists determined that there were no significant aquatic vegetation problems on the lake.

Limitations:

Shallow areas and dense stands of hardwood stumps make herbicide applications difficult on the upper end of the lake.

Past Control Measures:

Past drawdowns for maintenance purposes have provided several seasons of relief from submerged aquatic vegetation problems. Foliar herbicide applications to emergent aquatic vegetation along the inhabited shoreline areas have provided some relief to property owners from access and aesthetic problems caused by the aquatic plant growth.

Contract sprayers employed by the Cypress Black Bayou Recreation and Water Conservation District have been utilized for control of American lotus and other emergent aquatic vegetation on the lake. Glyphosate and 2, 4-D were used at label recommended rates according to the contractors. According to Cypress Park and Recreation Department staff, the last treatments were made in 2006 for salvinia and water hyacinth by air boat contractors.

Cypress Bayou Reservoir has been monitored for the presence of giant salvinia. Herbicide

applications were made as necessary by LDWF spray crews. No treatments were necessary for salvinia in 2011 or in 2012. If necessary for treatment of salvinia, a mix of glyphosate (0.75 gal/acre) and diquat (0.25 gal/acre) with Aqua King Plus (0.25 gal/acre) and Thoroughbred (8 oz/acre) surfactants will be used.

Recommendations:

Foliar herbicide applications will be conducted as necessary for control of emergent vegetation along inhabited shorelines of Cypress Bayou Reservoir. LDWF spray crews will use glyphosate (Aquamaster at 0.75 gallons/acre) and imazamox (Clearcast at 0.5 gallons/acre) herbicides. Surveys will be conducted quarterly to check for giant salvinia. If found, foliar treatments as described above will be applied by LDWF spray crews.

Appendix I

RS 38:2601

PART III. CYPRESS-BLACK BAYOU RECREATION AND WATER CONSERVATION DISTRICT

§2601. Creation

The Cypress-Black Bayou Recreation and Water Conservation District is hereby created.

Added by Acts 1958, No. 292, §1.

RS 38:2603

§2603. District as political subdivision and body corporate; purpose and powers; issuing bonds and levying taxes

The Cypress-Black Bayou Recreation and Water Conservation District so created shall be a political subdivision of the State of Louisiana, shall constitute a waterworks district under the provisions of Article XIV, Section 14 of the Constitution of the State of Louisiana for the year 1921, as amended, and shall have all the rights, powers, privileges and immunities hereinafter set forth. Additionally, the district shall be a budgetary unit of the State of Louisiana and shall have for its purpose the development of the wealth and natural resources of the district by the conservation of water for agricultural, municipal, recreational, commercial, industrial and sanitary purposes. It shall constitute a body corporate in law with all the powers, rights, privileges and immunities of a public corporation, and all powers necessary for it to carry out the objects for which it was created. It shall have the power to sue and be sued and to buy and sell all types of property, both real and personal, and to expropriate in accordance with law any properties which may be necessary for the accomplishment of its purposes as herein contemplated. It shall have the authority to negotiate and execute contracts, to acquire by purchase, gift, expropriation or otherwise every type and specie of property and servitudes, rights of way and flowage rights necessary to its purpose, and to construct, build, purchase, lease, operate and maintain any facilities, works or machinery designed to accomplish the purposes of the district. It shall have complete control over the supply of fresh water made available by its facilities which shall be administered for the benefit of the persons residing or owning property within the District and if it should be for the benefit of the district it shall have the authority to sell such water for irrigation, municipal and industrial uses both within and outside the district. The district shall constitute an agency of the State of Louisiana designed to carry out an essential governmental function of the State, and all of the property of the district shall be exempt from taxation. It shall have the authority to cooperate and contract with the government of the United States or any department or agency thereof and to accept gifts, grants and donations of property and money therefrom. It shall have the authority to cooperate with the State of Louisiana or any political subdivision, department, agency or corporation of said state for the construction, operation and maintenance of such facilities designed to accomplish the

purpose for which the district is created on any basis including the matching of funds and by participating in projects authorized by any federal or state law as it shall see fit.

The district shall have authority to incur debt, issue negotiable bonds and levy taxes for the purpose of constructing, acquiring, extending or improving any lands, reservoirs, levees, channels, canals, pipe lines, pumping stations, waterworks plants and any other facilities, including buildings, machinery and equipment, for the development of the wealth and natural resources of the district by the conservation and use of water for agricultural, municipal, recreational, commercial, industrial and sanitary purposes, including the acquisition of all lands incidental or necessary for the construction, use and enjoyment thereof, such purpose being hereby found and declared to be a public purpose. Any such bonds payable from ad valorem taxation shall be issued under the terms and provisions of Sub-Part A, Part III, Chapter 4, Title 39 of the Louisiana Revised Statutes of 1950, and any revenue bonds shall be issued under the terms and provisions of Sub-Part B or Sub-Part C of Part I, Chapter 10, Title 33 of the Louisiana Revised Statutes of 1950, provided, however, that any bonds so issued shall first be approved at a taxpayers election held in the manner prescribed by Part II, Chapter 4, Title 39 of the Louisiana Revised Statutes of 1950. In each instance the board of commissioners of the district shall be the governing authority of the district and shall have all of the rights, powers and privileges conferred upon the respective governing authorities by said statutes. Additionally, the district shall have authority to levy taxes under the provisions of Article X, Section 10 of the Constitution for the purpose of improving, operating and maintaining its facilities, provided any such tax shall first be approved at a taxpayers election as therein required. In the event any of the aforesaid parts of the Revised Statutes are in conflict with the provisions of this Part, then the provisions of this Part shall control, but in all other respects the cited portions of the Revised Statutes shall apply to the district for the purposes herein indicated.

Added by Acts 1958, No. 292, §3. Amended by Acts 1966, No. 198, §1.

RS 38:2607

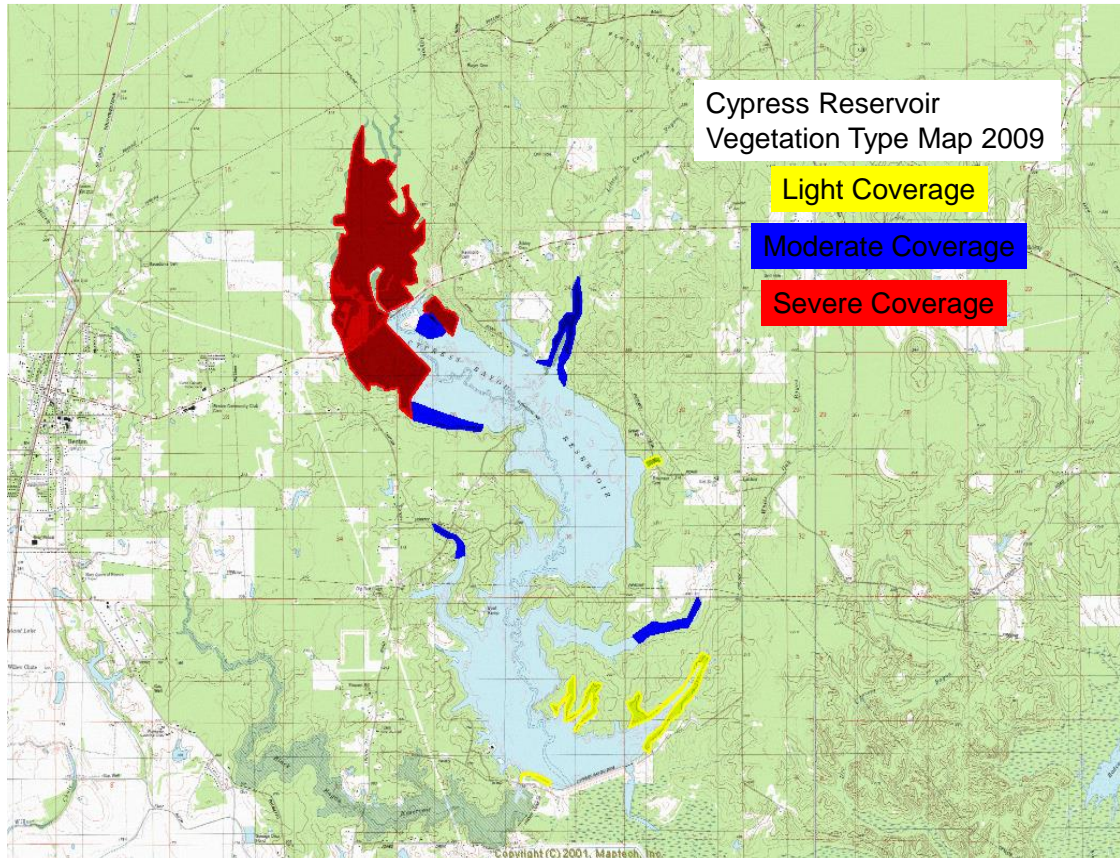
§2607. Fishing activities; prohibition of certain gear

The Wildlife and Fisheries Commission may prohibit the recreational and commercial use of hoop nets, gill nets, trammel nets, strike nets, seines, wire nets, wire traps, and slat traps on Cypress Bayou Reservoir and Black Bayou Reservoir. In addition, the board of commissioners of the Cypress-Black Bayou Recreation and Water Conservation District shall maintain public access to Cypress Bayou Reservoir and to Black Bayou Reservoir.

Acts 2002, 1st Ex. Sess., No. 55, §1, eff. April 18, 2002.

Typemap

Vegetation type map surveys were conducted by Aquatic Plant Section Personnel from 1990 – 1995 and 1997 – 2001 and by Inland Fisheries Personnel in 2006 and 2009.



CYPRESS RESERVOIR VEGETATION TYPE MAP 2009

The vegetation type mapping survey was conducted on Cypress Reservoir (3400 acres/Bossier Parish) in September 2009 by Louisiana Department of Wildlife and Fisheries, Inland Fisheries personnel. Jeff Sibley and Kevin Houston identified the major aquatic plant species present in the lake and assessed the extent of coverage around the lake. At the time of the survey, the lake was 0.5' below pool and secchi readings ranged from 16-23".

Species Present

The following species of aquatic macrophytes were identified in Cypress Reservoir: hydrilla (*Hydrilla verticillata*), coontail (*Ceratophyllum demersum*), cutgrass (*Leersia hexandra*), maidencane (*Panicum hemitomon*), American lotus (*Nelumbo lutea*), fragrant water lily (*Nymphaea odorata*), water hyacinths (*Eichhornia crassipes*), primrose species (*Ludwigia spp.*), aligatorweed (*Alternanthera philoxeroides*), pennywort (*Hydrocotyle spp.*), smartweed (*Polygonum hydropiperoides*), frog's-bit (*Limnobium spongia*), fanwort (*Cabomba caroliniana*), Illinois pondweed (*Potamogeton illinoensis*), watershield (*Brasenia schreberi*), big floating bladderwort (*Utricularia inflata*), Sagittaria spp., and giant salvinia (*Salvinia molesta*).

Severity

Aquatic vegetation covers approximately 7.5% (450 acres) of Cypress Reservoir. Aquatic vegetation is almost totally limited to the upper area of the lake above "Eagle's Nest" point and especially above the Hwy 157 bridge. Vegetation is very dense near the bridge and adjacent boat ramp, but densities decrease rapidly as one travels down the lake. As the lake spreads out, depths increase and wave action helps keep vegetation levels down.

Aquatic vegetation is almost non-existent in the rest of the lake except the extreme back end of pockets and tributaries. The main lake tends to be more turbid from waves and boating activity which likely keeps submerged vegetation from growing. Maidencane does line much of the shoreline in areas that are not developed for residential purposes.

Water hyacinths were found in the upper end of the lake, but are at low densities. Hydrilla and lotus are severe in the upper area near the public boat launch. Access is limited to the creek channel above the bridge and down until the lake starts to widen. Lotus poses a problem with limiting access to some homes/camps on the upper end of the lake, but otherwise are generally beneficial for fish habitat. Hydrilla was located out to the 5' below pool contour line.

Giant salvinia was first found on the lake in 2007 near the public launches. Although the plants have expanded their range, there was still less than 40 acres on the lake. The general morphology of the lake plus on-going herbicide applications have helped limit the spread of salvinia. Salvinia was generally limited to the extreme back ends of coves in calm water or mixed in small amounts around the shore of the lake in the cutgrass and maidencane. On the upper reaches of the reservoir, the other vegetation present is competing with salvinia for nutrients and space. No large mats were found on the lake. Many of the areas where salvinia was found should dewater during the upcoming drawdown that is for shoreline erosion repairs.